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BEFORE THE ENVIRONMENTAL QUALITY COUNCIL  
STATE OF WYOMING

In re Brook Mining Co., LLC coal mine )  
Permit – PT0841 ) EQC Docket No. 20-4802  
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**BROOK MINING CO., LLC EXPERT WITNESS DESIGNATION**

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Brook Mining Co., LLC (Brook) pursuant to the Council’s August 18, 2020, Scheduling Order, hereby designates its expert witness and provides the disclosures required by Wyoming Rule of Civil Procedure 26(a)(2).

1. Mr. Timothy A Ross, PE, Principal and Sr. Vice President, Agapito Associates, Inc., Golden, CO.

Since 2018, Agapito Associates, Inc., and Tim Ross have assisted Brook with the highwall mining considerations and subsidence-related aspects of the Brook permit application. Mr. Ross and his team prepared a report entitled, “GEOTECHNICAL DESIGN AND OPERATIONAL CONSIDERATIONS FOR HIGHWALL MINING—BROOK MINE”, dated

September 13, 2018. *See*, Stipulation to Admit Exhibits, DEQ Ex. 5-364 to DEQ Ex. 5-470 filed on October 6, 2020.

Mr. Ross was also recently asked to review numerous documents, reports, and expert analysis related to subsidence regarding the Brook permit issued by the Wyoming Department of Environmental Quality (“WDEQ”) on July 7, 2020. Mr. Ross reviewed all expert reports, all public comments, all comments and testimony from the informal conference regarding subsidence and the Agapito file in this matter. Included in the public comments were matters raised by Dr. Marino of Marino Engineering Associates, Inc. in his reports and his testimony at the informal conference.

Mr. Ross will testify regarding the opinions he expressed in the report. *See*, Stipulation to Admit Exhibits, DEQ Ex. 5-364 to DEQ Ex. 5-470 filed on October 6, 2020.

. This will include conclusions reached regarding the mine plan and application. Mr. Overton will also testify that the plan as permitted should prevent any material damage from occurring to the surface above the highwall mining areas and in the unlikely event material surface subsidence damage does occur, the reclamation requirement in the permit to restore the damaged areas to a condition capable of supporting the uses it was capable of supporting prior to subsidence is achievable. Further, Mr. Ross will testify that the permit conditions 9, 10, and 11 impose greater subsidence conditions on the Brook Mine than he has experienced at other mines in his professional career.

Mr. Ross will testify that WDEQ had previously hired Dan Overton to provide WDEQ/LQD with independent expertise and opinion on the issue of the subsidence control plan. He will testify that Brook Mine Permit conditions 9 and 10 were added after the informal conference to address the public comments and expert analysis of Dr. Marino, the mine

engineering expert hired by the PRBRC. Mr. Ross will testify regarding the comments of Dr. Marino and the permit conditions which addressed those comments. He will further testify regarding the July 7, 2020, permit, which provides that Brook is not entitled to mine any highwall mining area until it has complied with the permit conditions which are now incorporated into the mining application and permit. Mr. Ross will testify regarding Condition 9 of the permit requiring that Brook provide the WDEQ/LQD with the results from geotechnical testing of cores from a minimum of at least three geotechnical core holes for each highwall area to be mined.

Mr. Ross will testify regarding all actions required by Condition 9 and 10 which must be completed before commencing mining in the TR-1 area or any subsequent highwall mining area. Consistent with the comments of Dr. Marino, for the TR-1 area, this will require drilling and sampling at least two more core holes in addition to the previously tested hole 2017-4 core. Condition 9 requires that samples will be collected from each core hole and must include the roof, coal, and floor samples of the proposed highwall mining area. Condition 9 requires that for all future core holes, Atterberg limits and consolidated-drained triaxial testing must be performed in addition to the testing procedures performed on core whole 2017-4. Condition 9 also requires that the results of the core laboratory testing must be reviewed and analyzed by a Wyoming registered professional geologist or engineer. The mine plan and subsidence control plan will then be revised, if necessary, based upon the additional data and analysis.

Mr. Ross will testify regarding the subsidence control plan incorporated in the permit. Mr. Ross will testify that the subsidence plan is complete and accurate and provides the best protection for Wyoming and its citizens, and the environment and is designed to minimize the risk of subsidence and material damage to the surface above any highwall mining area. Mr. Ross

will testify that Condition 10 requires that all data and analysis from the geotechnical testing required in condition 9, will be submitted to WDEQ/LQD in the form of non-significant revisions to the mine plan and subsidence control plan. He will further testify that after completion of the additional testing and study, all results must be supplied to WDEQ for WDEQ consideration and regulatory action. Mr. Ross will testify that Brook mine cannot commence mining in any highwall mining area until WDEQ/LQD has provided written approval of the corresponding non-significant revision.

Mr. Ross will testify regarding his opinion as to Conditions 9 and 10, along with the application and the permit, which create the best possible subsidence control plan giving Brook and its professional geologist and/or engineer and WDEQ/LQD the ongoing benefit of understanding each area and the results of testing and analysis and the results of mining before providing Brook the opportunity to begin working any other highwall mining area. He will further testify that as WDEQ analyzes submissions for each highwall mining area, in future years, Brook and WDEQ will have access to the knowledge of the physical characteristics present in the mine. Mr. Ross will testify that this knowledge of the geology, hydrology, and other physical characteristics in the Brook mine will substantially aid in preventing subsidence during the life of the mine. He will further testify generally as to Condition 11 and the requirement that the operator will continue to perform remediation on any subsidence, detected during or subsequent to the six-month monitoring period, until bond release is approved.

Mr. Ross will testify that the subsidence plan incorporated into the Brook mine permit will more than likely prevent any material damage from occurring to the surface above any highwall mining area. If material damage does occur to the surface above any highwall mining area, Condition 11 of the permit and the reclamation plan requires remediation and repair of such

material damage and a cash bond is required and has been posted to ensure the work is completed. Mr. Ross will support this opinion using facts and data from Brook's permit application.

In addition to the above, the basis and reasons for his opinions are as follows:

Mr. Ross's May 17, 2019 inspection of the mine site. Mr. Ross's review of numerous documents, reports, expert analysis, and public comments addressing subsidence that were presented and considered prior to the Brook Mining permit being issued by the Wyoming Department of Environmental Quality ("WDEQ") on July 7, 2020. Mr. Ross's presentation and virtual attendance of the entire informal conference held on May 13, 2020 preliminary to issuing the permit for the Brook mine. Mr. Ross's review of the Brook Mining permit issued by the Wyoming Department of Environmental Quality ("WDEQ") on July 7, 2020. Mr. Ross's participation in 45 high wall mining studies over the last 20 years. Mr. Ross's 20 years as an operations manager for underground coal mining companies that practiced planned subsidence mining methods and the associated experience in mitigating material surface subsidence damage.

Mr. Ross may also offer opinions to rebut expert testimony and evidence introduced by the Powder River Basin Resource Council.

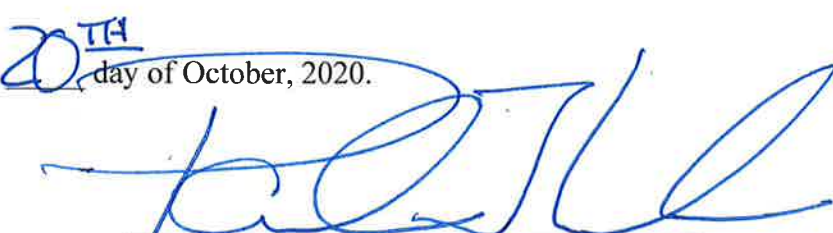
Mr. Ross has over forty years of experience in the mine engineering field. He has a degree in Mining Engineering from Virginia Tech. Mr. Ross is a Professional Engineer licensed in Wyoming and 11 other states and is a Founding Registered Member with The Society for Mining, Metallurgy & Exploration (SME). He has been a SME Mining Professional Engineer (PE) Exam Committee Member for 10 years. He is also responsible for the oversight of 45 highwall mining studies and reports over the last 20 years. Over the last 40 years, he has been responsible for mining operations that conducted controlled subsidence or as a consultant

studying subsidence risks. He has worked on mining projects located in the U.S., Europe, Brazil, Peru, Canada, Mexico, Columbia, China, Singapore, India, Russia, and Thailand. Projects have included copper, gold, industrial mineral, coal, salt, and potash mines. He is responsible for the Agapito Associates, Inc., Golden, CO office specializing in mining operations, mine design, ground control and mine engineering for underground mining, highwall mining, surface mining and underground storage caverns.

Mr. Ross's full resume, which includes his publications, is attached as Exhibit 1. In the last four years Mr. Ross has not provided testimony as an expert at trial or deposition. In the previous ten years Mr. Ross also published, *Fiber Reinforced Polymer Rockbolts for Ground Control in a Strong Jointed Rock Mass*, by S. Mohanty, T. Vandergrift, T. Ross, G.C. Hwi, and M.N. Lee. 33<sup>rd</sup> International Conference on Ground Control in Mining, Morgantown, WV, July 2014.

Mr. Ross' hourly billing rate is \$244.00 per hour for study and analysis and \$294.00 per hours for testimony.

Respectfully submitted this <sup>20<sup>TH</sup></sup> day of October, 2020.



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**CERTIFICATE OF SERVICE**

This is to certify that on the 20<sup>TH</sup> day of October, 2020, a true and correct copy of the foregoing **BROOK MINING CO. LLC EXPERT WITNESS DESIGNATION** was served upon the following:

Shannon Anderson  
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- EQC's electronic docket system
- Hand Delivered

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